UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/835,637	04/17/2001	Chung-Fang Chien	4006-120	4827

7590   03/26/2004

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ART UNIT	PAPER NUMBER
2121	2

DATE MAILED: 03/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

Office Action Summary	Application No. 09/835,637	Applicant(s) CHIEN, CHUNG-FANG
	Examiner Meltin Bell	Art Unit 2121

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 April 2001*.
2a)☐ This action is **FINAL.**   2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
   closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-32* is/are pending in the application.
   4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) *1-32* is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.
10)☒ The drawing(s) filed on *17 April 2001* is/are: a)☐ accepted or b)☒ objected to by the Examiner.
   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a)☐ All   b)☐ Some * c)☐ None of:
   1.☐ Certified copies of the priority documents have been received.
   2.☐ Certified copies of the priority documents have been received in Application No. _____.
   3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
      application from the International Bureau (PCT Rule 17.2(a)).
   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
   Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

This action is responsive to application **09/835,637** filed **04/17/01**.

Claims 1-32 have been examined.

Information Disclosure Statement

Applicant is respectfully reminded of the ongoing Duty to disclose 37 C.F.R. 1.56 all

pertinent information and material pertaining to the patentability of applicant's claimed

invention, by submitting in a timely manner PTO-1449, Information Disclosure

Statement (IDS) with the filing of applicant's application or thereafter.

Drawings

The United States Patent and Trademark Office of Draftsperson's Patent Drawings

Review have reviewed the formal drawings. Reasons for any Draftsperson objections

under 37 CFR 1.84 or 1.152 will be indicated on the Form PTO-948, Notice of

Draftsperson's Patent Drawing Review, if attached.

The drawings have not been checked to the extent necessary to determine the

presence of all possible minor errors. Applicant's cooperation is required in correcting

any errors of which applicant may become aware in the drawings.

The drawings are objected to because:

- Setp in Figs. 1-5 should be Step.

- Fig. 7, step 140 doesn't have an arrow to Fig. 8, step 200.

- Increase might be a better substitute for Higher in Fig. 11, step 520.

- Semiautomatio in Fig. 10, step 400 is not a complete word.

- Fig. 10 has duplicate step numbers (420, 420) for different objects.

- Form in Fig. 13, step 710 should be from.

- Leamer in Fig. 13, step 720 should be learner. Another alternative is to change the font so that 'r' followed by 'n' does not look like the letter 'm'.

- Lemer in Fig. 13, step 730 should be learner.

- Comples in Fig. 13, step 740 should be complex. One of the branches in this step is also unlabeled.

- Proriding in Fig. 13, step 760 should be providing.

- Correat in Fig. 13, step 790 should be correct.

- Sinple in Fig. 13, step 820 should be simple.

- Arrow(s) between steps 770, 810, 820 and 840 is/are missing from Fig. 13.

- Ramdom in Fig. 15, step 908 should be random.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is required in correcting any errors of which applicant may become aware in the specification.

The disclosure is objected to because of the following informalities:

- Page 5, lines 15-23 don't match steps 3-4 of Fig. 3.

- Page 7, lines 8-10 suggests the return step is missing in Fig. 7.

- '(step 140)' on page 8, line 8 should be placed between 'learner before' on page 8, line 7.

- 210 should be 200 on page 8, lines 13 and 20.

- FIF should be FIG. on page 8, line 15.

- The step 442 suggested on page 9, line 11 is missing in Fig. 10.

- The 600 on page 9, line 13 should be 500 as suggested by Fig. 10.

- Step 740 on page 10, line 9 should be followed with a ')'.

- Page 10, lines 17-19 doesn't match Fig. 13, step 810.

- Responses should be responds on page 13, line 24.

- 190 should be 910 on page 14, line 5.

Appropriate correction is required.

Claim Objections

Claims 1, 5, 9, 13, 17 and 21 are objected to because of the following informalities:

Regarding claim 9:

- 'is if' would read better as 'when'

Regarding claim 12:

- 'is if' would read better as 'when'

Regarding claim 17:

- 'are if' would read better as 'when'

Regarding claim 18:

- 'are if' would read better as 'when'

Regarding claim 20:

- 'are if' would read better as 'when'

Regarding claim 24:

- 'are if' would read better as 'when'

- 'and' should follow 'highest grade'

Regarding claim 25:

- 'are if' would read better as 'when'

Regarding claim 28:

- 'are if' would read better as 'when'

- 'and' should follow 'highest grade'

Regarding claim 29:

- 'and' should follow 'lowest grade'

Regarding claim 30:

- 'are if' would read better as 'when'

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form

the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-8, 10-11 and 14-15 are rejected under 35 U.S.C. 102(b) as being anticipated

by *Munson et al* U.S. Patent Number 5,035,625 (July 30, 1991).

Regarding claim 1:

Munson et al teaches,

- providing a simple question to a learner (Fig. 1A, step 40; column 3, lines 42-47, "The

N records...are hard questions")

- making a decision on whether a hint is to be provided to the learner (Fig. 1B, steps 54,

58, 62, 80, 86)

- providing a hint to the learner if the decision is "yes" (Fig. 1B, steps 56, 60, 64)

- receiving a learner-given answer from the learner (Fig. 1B, step 70)

- checking whether the learner-given answer is correct (Fig. 1B, step 80)

Regarding claim 2:

The rejection of claim 1 is incorporated. Therefore, claim 2 is rejected under the same

rationale as claim 1.

Regarding claim 3:

The rejection of claim 2 is incorporated. Therefore, claim 3 is rejected under the same

rationale as claim 2.

Regarding claim 4:

The rejection of claim 1 is incorporated. Therefore, claim 4 is rejected under the same

rationale as claim 1.

Regarding claim 5:

The rejection of claim 1 is incorporated. Therefore, claim 5 is rejected under the same rationale as claim 1.

Regarding claim 6:

Munson et al teaches,

- providing at least one simple question of a grade to a learner (Fig. 1A, step 40; column 3, lines 42-47, "The N records...are hard questions")

- receiving a learner-given answer from the learner (Fig. 1B, step 70)

- checking whether the learner-given answer is correct (Fig. 1B, step 80)

- returning to the step of providing at least one simple question based on the determination whether the learner-given answer is correct (Fig. 1B, step 114)

Regarding claim 7:

The rejection of claim 6 is incorporated. Therefore, claim 7 is rejected under the same rationale as claim 6.

Regarding claim 8:

Munson et al teaches,

- checking whether the grade to which the first simple question belongs reaches the highest grade if the response is "easy" (column 5, lines 19-26, "Another method of...their educational level")

Regarding claim 10:

The rejection of claim 7 is incorporated. Therefore, claim 10 is rejected under the same rationale as claim 7.

Regarding claim 11:

Munson et al teaches,

- checking whether the grade to which the first simple question belongs reaches the

lowest grade if the response is "difficult" (column 5, lines 19-26, "Another method

of... their educational level")

Regarding claim 14:

The rejection of claim 6 is incorporated. Therefore, claim 14 is rejected under the same

rationale as claim 6.

Regarding claim 15:

Munson et al teaches,

- evaluating the score of the learner before returning to the step of providing simple

questions (Fig. 1B, step 110; column 2, lines 41-50, "At each pause... further positive

responses")

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 9, 12-13, 16-32 are rejected under 35 U.S.C. 103(a) as being

unpatentable over *Munson et al* U.S. Patent Number 5,035,625 (July 30, 1991) in view

of *Parry et al* U.S. Patent Number 6,077,085 (June 20, 2000) and further in view of

Jerinic et al "OBOA model of explanation module in intelligent tutoring shell" (June

1997).

Regarding claim 9:

Munson et al teaches,

- providing at least one simple question of a grade to a learner (Fig. 1A, step 40; column

3, lines 42-47, "The N records...are hard questions")

- receiving a learner-given answer from the learner (Fig. 1B, step 70)

- checking whether the learner-given answer is correct (Fig. 1B, step 80)

- returning to the step of providing at least one simple question based on the

determination whether the learner-given answer is correct (Fig. 1B, step 114)

- checking whether the grade to which the first simple question belongs reaches the

highest grade if the response is "easy" (column 5, lines 19-26, "Another method

of...their educational level")

However, *Munson et al* doesn't explicitly teach the second simple question is provided

from a higher grade than the first simple question is if the grade to which the first simple

questions belongs is not the highest grade while *Parry et al* teaches,

- the second simple question is provided from a higher grade than the first simple

question is if the grade to which the first simple questions belongs is not the highest

grade (column 16, lines 8-36, "To determine whether...one of them"; Figs. 4-5, 14-15;

column 16, lines 51-67, "Once it has...student's comprehension level")

Motivation - The portions of the claimed method would have been a highly desirable

feature in this art for

- Optimizing the level of challenge for all learners (*Parry et al,* Abstract, "The

  systems, methods...for all students")

- Encouraging positive learner responses (*Munson et al,* column 2, lines 43-50,

  "The student's responses...further positive responses")

Therefore, it would have been obvious to one of ordinary skill in the art at the time the

invention was made, to combine *Munson et al* with *Parry et al* to obtain the invention

specified in claim 9, a computer-implemented method for helping a learner practice.

The modification would have been obvious because one of ordinary skill in the art would

have been motivated to challenge the learner in providing the best response to

questions.

Regarding claim 12:

Munson et al teaches,

- providing at least one simple question of a grade to a learner (Fig. 1A, step 40; column

3, lines 42-47, "The N records...are hard questions")

- receiving a learner-given answer from the learner (Fig. 1B, step 70)

- checking whether the learner-given answer is correct (Fig. 1B, step 80)

- returning to the step of providing at least one simple question based on the

determination whether the learner-given answer is correct (Fig. 1B, step 114)

- checking whether the grade to which the first simple question belongs reaches the

lowest grade if the response is "difficult" (column 5, lines 19-26, "Another method

of... their educational level")

However, *Munson et al* doesn't explicitly teach the second simple questions is provided

from a lower grade than the first simple questions is if the grade to which the first simple

questions belongs is not the lowest grade while *Parry et al* teaches,

- the second simple questions is provided from a lower grade than the first simple

questions is if the grade to which the first simple questions belongs is not the lowest

grade (column 24, lines 11-40, "FIG. 15 shows... only one step")

Motivation - The portions of the claimed method would have been a highly desirable

feature in this art for

- Optimizing the level of challenge for all learners (*Parry et al,* Abstract, "The

  systems, methods... for all students")

- Encouraging positive learner responses (*Munson et al,* column 2, lines 43-50,

  "The student's responses... further positive responses")

Therefore, it would have been obvious to one of ordinary skill in the art at the time the

invention was made, to combine *Munson et al* with *Parry et al* to obtain the invention

specified in claim 12, a computer-implemented method for helping a learner practice.

The modification would have been obvious because one of ordinary skill in the art would

have been motivated to challenge the learner in providing the best response to

questions.

Regarding claim 13:

Munson et al teaches,

- providing at least one simple question of a grade to a learner (Fig. 1A, step 40; column

3, lines 42-47, "The N records...are hard questions")

- receiving a learner-given answer from the learner (Fig. 1B, step 70)

- checking whether the learner-given answer is correct (Fig. 1B, step 80)

- returning to the step of providing at least one simple question based on the

determination whether the learner-given answer is correct (Fig. 1B, step 114)

- checking whether the grade to which the first simple question belongs reaches the

lowest grade if the response is "difficult" (column 5, lines 19-26, "Another method

of...their educational level")

However, *Munson et al* doesn't explicitly teach explaining the concept of the simple

question to the learner if the grade to which the first simple question belongs reaches

the lowest grade while *Jerenic et al* teaches,

- explaining the concept of the simple question to the learner if the grade to which the

first simple question belongs reaches the lowest grade (page 135, section 5, "The

presented method...20% more cases")

Motivation - The portions of the claimed method would have been a highly desirable

feature in this art for

- Compensating for errors in the question or response expected (*Jerenic et al,*

  page 134, right column, paragraph 2, "The important characteristics...and his

  PEG[5]")

- Encouraging positive learner responses (*Munson et al,* column 2, lines 43-50,

    "The student's responses...further positive responses")

Therefore, it would have been obvious to one of ordinary skill in the art at the time the

invention was made, to combine *Munson et al* with *Jerenic et al* to obtain the invention

specified in claim 13, a computer-implemented method for helping a learner practice.

The modification would have been obvious because one of ordinary skill in the art would

have been motivated to encourage the learner in providing the best response to any

question.

Regarding claim 16:

Munson et al teaches,

- providing at least one simple question of a grade to a learner (Fig. 1A, step 40; column

3, lines 42-47, "The N records...are hard questions")

- receiving a learner-given answer from the learner (Fig. 1B, step 70)

- checking whether the learner-given answer is correct (Fig. 1B, step 80)

- returning to the step of providing at least one simple question based on the

determination whether the learner-given answer is correct (Fig. 1B, step 114)

- checking whether the grade to which the first simple question belongs reaches the

lowest grade if the response is "difficult" (column 5, lines 19-26, "Another method

of...their educational level")

However, *Munson et al* doesn't explicitly teach checking whether the grade to which the

first plurality of simple questions belong reaches the highest grade if the score is better

than a predetermined upper criterion while *Parry et al* teaches,

- checking whether the grade to which the first plurality of simple questions belong

reaches the highest grade if the score is better than a predetermined upper criterion

(column 24, lines 11-40, "FIG. 15 shows...only one step")

- the second plurality of simple question are provided from a higher grade than the first

plurality of simple questions are if the grade to which the first simple questions belongs

is not the highest grade (column 16, lines 8-36, "To determine whether...one of them";

Figs. 4-5, 14-15; column 16, lines 51-67, "Once it has...student's comprehension level")

Motivation - The portions of the claimed method would have been a highly desirable

feature in this art for

- Optimizing the level of challenge for all learners (*Parry et al,* Abstract, "The

  systems, methods...for all students")

- Encouraging positive learner responses (*Munson et al,* column 2, lines 43-50,

  "The student's responses...further positive responses")

Therefore, it would have been obvious to one of ordinary skill in the art at the time the

invention was made, to combine *Munson et al* with *Parry et al* to obtain the invention

specified in claim 16, a computer-implemented method for helping a learner practice.

The modification would have been obvious because one of ordinary skill in the art would

have been motivated to challenge the learner in providing the best response to

questions.

Regarding claim 17:

The rejection of claim 16 is incorporated. Therefore, claim 17 is rejected under the

same rationale as claim 16.

Regarding claim 18:

Munson et al teaches,

- providing at least one simple question of a grade to a learner (Fig. 1A, step 40; column

3, lines 42-47, "The N records...are hard questions")

- receiving a learner-given answer from the learner (Fig. 1B, step 70)

- checking whether the learner-given answer is correct (Fig. 1B, step 80)

- returning to the step of providing at least one simple question based on the

determination whether the learner-given answer is correct (Fig. 1B, step 114)

- checking whether the grade to which the first simple question belongs reaches the

lowest grade if the response is "difficult" (column 5, lines 19-26, "Another method

of...their educational level")

However, *Munson et al* doesn't explicitly teach the second plurality of simple questions

are provided from the same grade as the first plurality of simple questions are if the

score is between pre-determined upper and lower criteria while *Parry et al* teaches,

- the second plurality of simple questions are provided from the same grade as the first

plurality of simple questions are if the score is between pre-determined upper and lower

criteria (column 24, lines 11-40, "FIG. 15 shows...only one step"; column 16, lines 8-36,

"To determine whether...one of them"; Figs. 4-5, 14-15; column 16, lines 51-67, "Once it

has...student's comprehension level")

Motivation - The portions of the claimed method would have been a highly desirable

feature in this art for

- Optimizing the level of challenge for all learners (*Parry et al,* Abstract, "The

  systems, methods...for all students")

- Encouraging positive learner responses (*Munson et al,* column 2, lines 43-50,

  "The student's responses...further positive responses")

Therefore, it would have been obvious to one of ordinary skill in the art at the time the

invention was made, to combine *Munson et al* with *Parry et al* to obtain the invention

specified in claim 18, a computer-implemented method for helping a learner practice.

The modification would have been obvious because one of ordinary skill in the art would

have been motivated to challenge the learner in providing the best response to

questions.

Regarding claim 19:

Munson et al teaches,

- providing at least one simple question of a grade to a learner (Fig. 1A, step 40; column

3, lines 42-47, "The N records...are hard questions")

- receiving a learner-given answer from the learner (Fig. 1B, step 70)

- checking whether the learner-given answer is correct (Fig. 1B, step 80)

- returning to the step of providing at least one simple question based on the

determination whether the learner-given answer is correct (Fig. 1B, step 114)

- checking whether the grade to which the first simple question belongs reaches the

lowest grade if the response is "difficult" (column 5, lines 19-26, "Another method

of...their educational level")

However, *Munson et al* doesn't explicitly teach checking whether the grade to which the first plurality if simple questions belong reaches the lowest grade if the score is worse than a predetermined upper criterion while *Parry et al* teaches,

- checking whether the grade to which the first plurality if simple questions belong reaches the lowest grade if the score is worse than a predetermined upper criterion (column 24, lines 11-40, "FIG. 15 shows...only one step"; column 16, lines 8-36, "To determine whether...one of them"; Figs. 4-5, 14-15; column 16, lines 51-67, "Once it has...student's comprehension level")

Motivation - The portions of the claimed method would have been a highly desirable feature in this art for

- Optimizing the level of challenge for all learners (*Parry et al,* Abstract, "The systems, methods...for all students")

- Encouraging positive learner responses (*Munson et al,* column 2, lines 43-50, "The student's responses...further positive responses")

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to combine *Munson et al* with *Parry et al* to obtain the invention specified in claim 19, a computer-implemented method for helping a learner practice. The modification would have been obvious because one of ordinary skill in the art would have been motivated to challenge the learner in providing the best response to questions.

Regarding claim 20:

The rejection of claim 19 is incorporated. Therefore, claim 20 is rejected under the

same rationale as claim 19.

Regarding claim 21:

Munson et al teaches,

- providing at least one simple question of a grade to a learner (Fig. 1A, step 40; column

3, lines 42-47, "The N records... are hard questions")

- receiving a learner-given answer from the learner (Fig. 1B, step 70)

- checking whether the learner-given answer is correct (Fig. 1B, step 80)

- returning to the step of providing at least one simple question based on the

determination whether the learner-given answer is correct (Fig. 1B, step 114)

- checking whether the grade to which the first simple question belongs reaches the

lowest grade if the response is "difficult" (column 5, lines 19-26, "Another method

of... their educational level")

However, *Munson et al* doesn't explicitly teach checking whether the grade to which the

first plurality if simple questions belong reaches the lowest grade if the score is worse

than a predetermined upper criterion or explaining the concept of the simple questions

to the learner if the grade to which the first plurality of simple question belong reaches

the lowest grade while *Parry et al* teaches,

- checking whether the grade to which the first plurality if simple questions belong

reaches the lowest grade if the score is worse than a predetermined upper criterion

(column 16, lines 8-36, "To determine whether... one of them"; Figs. 4-5, 14-15; column

16, lines 51-67, "Once it has...student's comprehension level"; column 24, lines 11-40,

"FIG. 15 shows...only one step")

Jerenic et al teaches,

- explaining the concept of the simple questions to the learner if the grade to which the

first plurality of simple question belong reaches the lowest grade (page 135, section 5,

"The presented method...20% more cases")

Motivation - The portions of the claimed method would have been a highly desirable

feature in this art for

- Compensating for errors in the question or response expected (*Jerenic et al,*
  page 134, right column, paragraph 2, "The important characteristics...and his
  PEG[5]")

- Optimizing the level of challenge for all learners (*Parry et al,* Abstract, "The
  systems, methods...for all students")

- Encouraging positive learner responses (*Munson et al,* column 2, lines 43-50,
  "The student's responses...further positive responses")

Therefore, it would have been obvious to one of ordinary skill in the art at the time the

invention was made, to combine *Munson et al* with *Parry et al* and *Jerenic et al* to obtain

the invention specified in claim 21, a computer-implemented method for helping a

learner practice. The modification would have been obvious because one of ordinary

skill in the art would have been motivated to challenge the learner in providing the best

response to any question.

Regarding claim 22:

Munson et al teaches,

- providing at least one simple question of a grade to a learner (Fig. 1A, step 40; column

3, lines 42-47, "The N records... are hard questions")

- receiving a learner-given answer from the learner (Fig. 1B, step 70)

- checking whether the learner-given answer is correct (Fig. 1B, step 80)

- returning to the step of providing at least one simple question based on the

determination whether the learner-given answer is correct (Fig. 1B, step 114)

- checking whether the grade to which the first simple question belongs reaches the

lowest grade if the response is "difficult" (column 5, lines 19-26, "Another method

of... their educational level")

However, *Munson et al* doesn't explicitly teach receiving a response from the learner if

the score is better than a predetermined upper criterion while *Parry et al* teaches,

- receiving a response from the learner if the score is better than a predetermined upper

criterion (column 16, lines 8-36, "To determine whether... one of them"; Figs. 4-5, 14-15;

column 16, lines 51-67, "Once it has... student's comprehension level"; column 24, lines

11-40, "FIG. 15 shows... only one step")

Motivation - The portions of the claimed method would have been a highly desirable

feature in this art for

- Optimizing the level of challenge for all learners (*Parry et al,* Abstract, "The

  systems, methods... for all students")

- Encouraging positive learner responses (*Munson et al,* column 2, lines 43-50,

    "The student's responses...further positive responses")

Therefore, it would have been obvious to one of ordinary skill in the art at the time the

invention was made, to combine *Munson et al* with *Parry et al* to obtain the invention

specified in claim 22, a computer-implemented method for helping a learner practice.

The modification would have been obvious because one of ordinary skill in the art would

have been motivated to challenge the learner in providing the best response to any

question.

Regarding claim 23:

The rejection of claim 22 is incorporated. Therefore, claim 23 is rejected under the

same rationale as claim 22.

Regarding claim 24:

The rejection of claim 23 is incorporated. Therefore, claim 24 is rejected under the

same rationale as claim 23.

Regarding claim 25:

The rejection of claim 22 is incorporated. Therefore, claim 25 is rejected under the

same rationale as claim 22.

Regarding claim 26:

Munson et al teaches,

- providing at least one simple question of a grade to a learner (Fig. 1A, step 40; column

3, lines 42-47, "The N records...are hard questions")

- receiving a learner-given answer from the learner (Fig. 1B, step 70)

- checking whether the learner-given answer is correct (Fig. 1B, step 80)

- returning to the step of providing at least one simple question based on the

determination whether the learner-given answer is correct (Fig. 1B, step 114)

- checking whether the grade to which the first simple question belongs reaches the

lowest grade if the response is "difficult" (column 5, lines 19-26, "Another method

of... their educational level")

However, Munson et al doesn't explicitly teach receiving a response from the learner if

the score is worse than a predetermined lower criterion while Parry et al teaches,

- receiving a response from the learner if the score is worse than a predetermined lower

criterion (column 16, lines 8-36, "To determine whether... one of them"; Figs. 4-5, 14-15;

column 16, lines 51-67, "Once it has... student's comprehension level"; column 24, lines

11-40, "FIG. 15 shows... only one step")

Motivation - The portions of the claimed method would have been a highly desirable

feature in this art for

- Optimizing the level of challenge for all learners (Parry et al, Abstract, "The

  systems, methods... for all students")

- Encouraging positive learner responses (Munson et al, column 2, lines 43-50,

  "The student's responses... further positive responses")

Therefore, it would have been obvious to one of ordinary skill in the art at the time the

invention was made, to combine Munson et al with Parry et al to obtain the invention

specified in claim 26, a computer-implemented method for helping a learner practice.

The modification would have been obvious because one of ordinary skill in the art would

have been motivated to challenge the learner in providing the best response to any

question.

Regarding claim 27:

The rejection of claim 26 is incorporated. Therefore, claim 27 is rejected under the

same rationale as claim 26.

Regarding claim 28:

The rejection of claim 27 is incorporated. Therefore, claim 28 is rejected under the

same rationale as claim 27.

Regarding claim 29:

Munson et al teaches,

- providing at least one simple question of a grade to a learner (Fig. 1A, step 40; column

3, lines 42-47, "The N records... are hard questions")

- receiving a learner-given answer from the learner (Fig. 1B, step 70)

- checking whether the learner-given answer is correct (Fig. 1B, step 80)

- returning to the step of providing at least one simple question based on the

determination whether the learner-given answer is correct (Fig. 1B, step 114)

- checking whether the grade to which the first simple question belongs reaches the

lowest grade if the response is "difficult" (column 5, lines 19-26, "Another method

of... their educational level")

However, *Munson et al* doesn't explicitly teach checking whether the grade to which the

first plurality if simple questions belong reaches the lowest grade if the score is worse

than a predetermined upper criterion or explaining the concept of the simple questions

to the learner if the grade to which the first plurality of simple question belong reaches

the lowest grade if the response is difficult while *Parry et al* teaches,

- checking whether the grade to which the first plurality if simple questions belong

reaches the lowest grade if the score is worse than a predetermined upper criterion

(column 16, lines 8-36, "To determine whether...one of them"; Figs. 4-5, 14-15; column

16, lines 51-67, "Once it has...student's comprehension level"; column 24, lines 11-40,

"FIG. 15 shows...only one step")

Jerenic et al teaches,

- explaining the concept of the simple questions to the learner if the grade to which the

first plurality of simple question belong reaches the lowest grade if the response is

difficult (page 135, section 5, "The presented method...20% more cases")

Motivation - The portions of the claimed method would have been a highly desirable

feature in this art for

- Compensating for errors in the question or response expected (*Jerenic et al,*
  page 134, right column, paragraph 2, "The important characteristics...and his
  PEG[5]")

- Optimizing the level of challenge for all learners (*Parry et al,* Abstract, "The
  systems, methods...for all students")

- Encouraging positive learner responses (*Munson et al,* column 2, lines 43-50,
  "The student's responses...further positive responses")

Therefore, it would have been obvious to one of ordinary skill in the art at the time the

invention was made, to combine *Munson et al* with *Parry et al* and *Jerenic et al* to obtain

the invention specified in claim 29, a computer-implemented method for helping a

learner practice. The modification would have been obvious because one of ordinary

skill in the art would have been motivated to challenge the learner in providing the best

response to any question.

Regarding claim 30:

The rejection of claim 26 is incorporated. Therefore, claim 30 is rejected under the

same rationale as claim 26.

Regarding claim 31:

Munson et al teaches,

- providing at least one simple question of a grade to a learner (Fig. 1A, step 40; column

3, lines 42-47, "The N records...are hard questions")

- receiving a learner-given answer from the learner (Fig. 1B, step 70)

- checking whether the learner-given answer is correct (Fig. 1B, step 80)

- returning to the step of providing at least one simple question based on the

determination whether the learner-given answer is correct (Fig. 1B, step 114)

- checking whether the grade to which the first simple question belongs reaches the

lowest grade if the response is "difficult" (column 5, lines 19-26, "Another method

of...their educational level")

However, *Munson et al* doesn't explicitly teach retrieving the correct answer for the

simple question provided to the learner before the step of checking whether the learner-

given answer is correct while *Parry et al* teaches,

- retrieving the correct answer for the simple question provided to the learner before the

step of checking whether the learner-given answer is correct (column 16, lines 8-36, "To

determine whether...one of them"; Figs. 4-5, 14-15; column 16, lines 51-67, "Once it

has...student's comprehension level"; column 24, lines 11-40, "FIG. 15 shows...only

one step")

Motivation - The portions of the claimed method would have been a highly desirable

feature in this art for

- Optimizing the level of challenge for all learners (*Parry et al,* Abstract, "The

  systems, methods...for all students")

- Encouraging positive learner responses (*Munson et al,* column 2, lines 43-50,

  "The student's responses...further positive responses")

Therefore, it would have been obvious to one of ordinary skill in the art at the time the

invention was made, to combine *Munson et al* with *Parry et al* to obtain the invention

specified in claim 31, a computer-implemented method for helping a learner practice.

The modification would have been obvious because one of ordinary skill in the art would

have been motivated to challenge the learner in providing the best response to any

question.

Regarding claim 32:

Munson et al teaches,

- providing a complex question to a learner (Fig. 1A, step 40; column 3, lines 42-47,

"The N records...are hard questions")

- receiving a learner-given answer from the learner for the complex question (Fig. 1B,

step 70)

- checking whether the learner-given answer for the complex question is correct (Fig.

1B, step 80)

- if the learner-given answer is incorrect, selecting one of the components of the

complex question and executing the following steps (Fig. 1B, step 84) :

- providing a simple question from the target grade in the category to which the selected

component belongs (column 12, lines 28-33, "A method of... desired difficulty level")

- receiving from the learner a learner-given answer for the simple question (Fig. 1B, step

70)

- checking whether the learner-given answer for the simple question is correct (Fig. 1B,

step 80)

However, *Munson et al* doesn't explicitly teach checking whether the grade to which the

simple question belongs reaches the target grade or explaining the concept of the

simple question while *Parry et al* teaches,

- if the learner-given answer for the simple question is correct, checking whether the

grade to which the simple question belongs reaches the target grade and performing

the following steps (column 16, lines 8-36, "To determine whether... one of them") :

- returning to the component-selecting step if the grade to which the simple question

belongs reaches the target grade (Figs. 4-5, 14-15)

- selecting a higher grade and returning to the step of providing a simple question if the grade to which the simple question belongs does not reach the target grade (column 16, lines 51-67, "Once it has...student's comprehension level")

- if the learner-given answer for the simple question is incorrect, checking whether the grade to which the simple question belongs reaches the lowest grade and performing the following steps (column 16, lines 46-49, "The current item...regressing are fulfilled"):

- selecting a lower grade and returning to the step of providing a simple question if the grade to which the simple question belongs does not reach the lowest grade (column 16, lines 37-46, "If found lacking...anxiety and frustration")

Jerenic et al teaches,

- explaining the concept of the simple question if the grade to which the simple question belongs reaches the lowest grade (page 135, section 5, "The presented method...20% more cases")

Motivation - The portions of the claimed method would have been a highly desirable feature in this art for

- Compensating for errors in the question or response expected (*Jerenic et al,* page 134, right column, paragraph 2, "The important characteristics...and his PEG[5]")

- Optimizing the level of challenge for all learners (*Parry et al,* Abstract, "The systems, methods...for all students")

- Encouraging positive learner responses (*Munson et al,* column 2, lines 43-50, "The student's responses...further positive responses")

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to combine *Munson et al* with *Parry et al* and *Jerenic et al* to obtain the invention specified in claim 32, a computer-implemented method for helping a learner practice. The modification would have been obvious because one of ordinary skill in the art would have been motivated to challenge the learner in providing the best response to any question.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

- *Munson et al*; U.S. Patent Number 5,035,625

- *Parry et al;* U.S. Patent Number 6,077,085

- *Jerinic et al;* "OBOA model of explanation module in intelligent tutoring shell"; ACM SIGCSE Bulletin, Proceedings of the 2nd conference on Integrating technology into computer science education; June 1997; Volume 29 Issue 3

- *Fujiyama et al*; U.S. Patent Number 4,712,180; Editing System of Educational Program for a Computer Assisted Instruction System

- *Maron*; U.S. Patent Number 4,705,479; Process of Teaching

- *Vaughan, Jr.*; U.S. Patent Number 6,419,496; Learning Method

- *Brown et al*; U.S. Patent Number 6,186,794; Apparatus for Interactive Adaptive Learning By An Individual Through At Least One Of A Stimuli Presentation Device And A User Perceivable Display

- *Güvenir*; An object-oriented tutoring system for teaching sets; ACM SIGCSE Bulletin;

September 1995; Volume 27 Issue 3

- *Sherman*; Expert systems and ICAI in tax law: killing two birds with one AI stone;

Proceedings of the second international conference on Artificial intelligence and law;
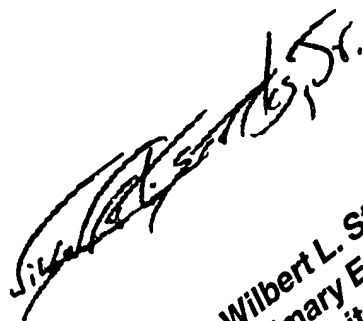
May 1989

- *Burton et al*; A tutoring and student modelling paradigm for gaming environments;

Proceedings of the ACM SIGCSE-SIGCUE technical symposium on Computer science

and education; February 1976; Volume 2 , 8 Issue SI , 1

Any inquiry concerning this communication or earlier communications from the

Office should be directed to Meltin Bell whose telephone number is 703-305-0362. This

Examiner can normally be reached on Mon - Fri 7:30 am - 4:30 pm.

If attempts to reach this Examiner by telephone are unsuccessful, his supervisor,

Anil Khatri, can be reached on 703-305-0282. The fax phone number for the

organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or

proceeding should be directed to the receptionist whose telephone number is 703-305-

3900.

MB /*MM*.*M*.

Wilbert L. Starks, Jr.
Primary Examiner
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